SOUTH KOREA THE 100 DAYS

OF COVID-19 OUTBREAK







S. KOREA'S RESPONSE TO COVID-19

RETURNING BACK TO NORMAL LIFE

POST COVID-19: INDUSTRIAL TRENDS

POST COVID-19: PROMISING TECHNOLOGIES

SUGGESTIONS



S. KOREA'S RESPONSE TO COVID-19



RETURNING BACK TO NORMAL LIFE



POST COVID-19: INDUSTRIAL TRENDS



POST COVID-19: PROMISING TECHNOLOGIES





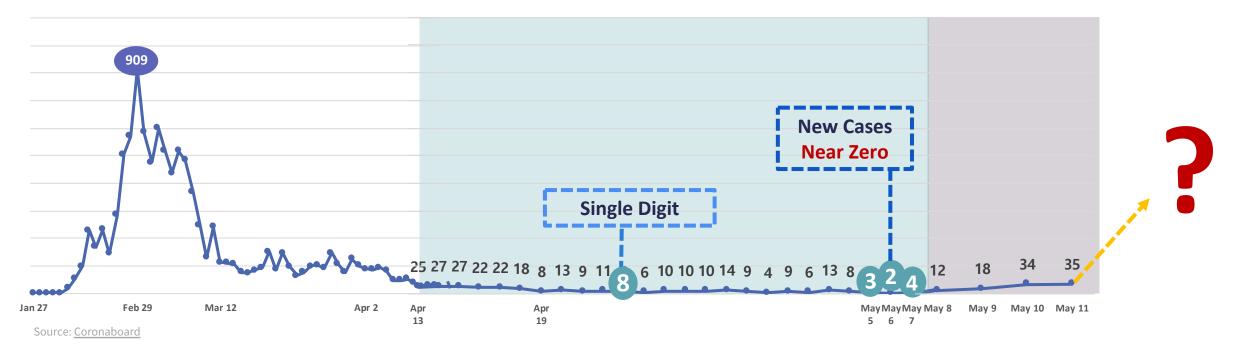
SUGGESTIONS

COVID-19 in South Korea

New Coronavirus Cases Near Zero, BUT...

Number of New Confirmed Cases (per day)

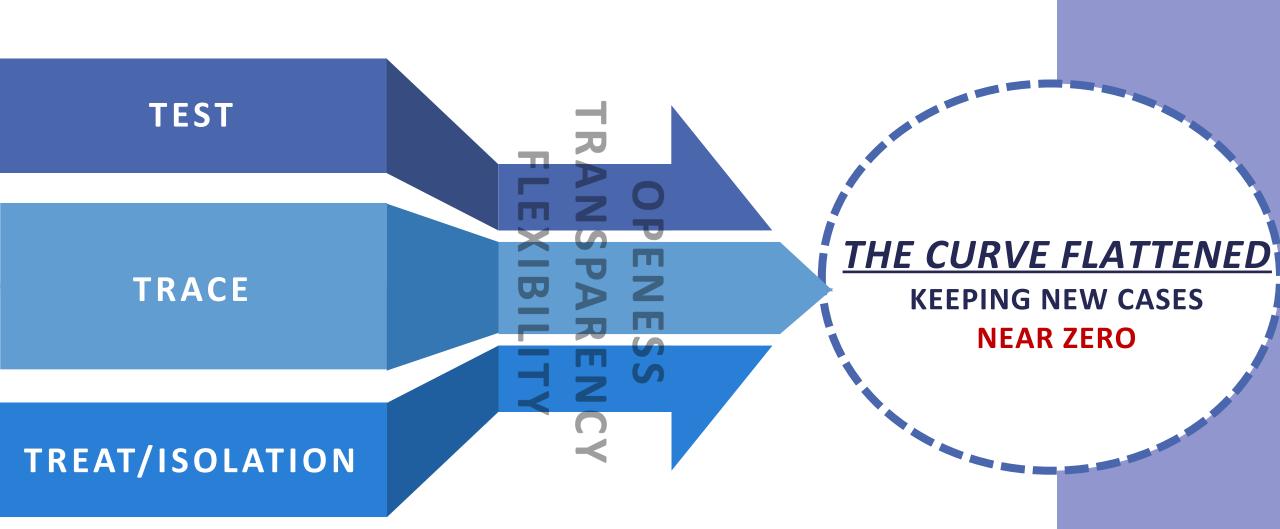
Source: Coronaboard



South Korea, a country of over 50 million appears to have greatly slowed its epidemic. The Ministry of Health and Welfare (MOHW) reported **only 2 to 4 new cases confirmed from**May 5th to 7th after firstly seeing a single digit number of new cases on April 19. South Korea is among the countries hit earliest by COVID-19; however, South Korea never imposed lockdown or stopped its people from going to work. Nevertheless, Korean government recommended to suspend indoor sports, religious and entertainment facilities in March, but due to the lower infection cases, they recently announced to allow facilities to restart operations starting from April 20 as long as they comply with disinfection guidelines.

However, an unexpected surge in COVID-19 cases was seen as a man in his 20s who tested positive for COVID-19 visited a club in Itaewon, an international district, on May 1 during the Golden Week holiday. Linked to Itaewon, the country reported 35 more cases of the new coronavirus as of May 11.

Direction of the S. Korean Government



Direction of the S. Korean Government

> Ability to Perform 15,000 to 20,000 Tests a Day

- Since the MERS outbreak in 2015, Korea CDC has been preparing to establish a rapid diagnosis system at a time when infectious diseases could come back. As soon as the news of the Coronavirus outbreak was heard in China in December 2019, the production of diagnostic kits begun and succeeded in late January in 2020

> Pioneered Launching Drive-through and Walk-through Diagnostics

 With the creation of a drive-through inspection center, up to 54 people per doctor can be inspected per day. Previously, the number of inspectors, which used to be about 10 per doctor a day, more than five times increased due to the time required for disinfection after face-to-face treatment.

Source: May 8, 2020. Health Korea News



S. Korea's COVID-19 Test Kit

Image Source: April 11, 2020. Global Economic



Drive-through Coronavirus Testing

Image Source: February 29, 2020. Yonhap News

Direction of the S. Korean Government



Text Messaging Alerts

Image Source: April 11, 2020. The Asia Business Daily



Smartphone App for Mandatory Quarantines

Transparent Information Disclosure
 The government and local governments

- The government and local governments quickly revealed the movements of confirmed patients through real-time text messages and also reported the quarantine situation where confirmed patients passed which led to reduce public anxiety.

Adoption of ICT (Information and Communication Technology)

- The government used existing data sources such as cellphone tracking, credit card transactions, and security camera footage to trace persons who might have come into contact with someone who has tested positive.
- In addition, public officials continued to manage people in mandatory quarantines by tracking on a smartphone app. Everyone arriving in the country from overseas is required to install a smartphone app, on which they're required to report their symptoms and temperature daily, while being placed under mandatory 14-day quarantines.

Source: May 6, 2020. Maeil Business Newspaper

Direction of the S. Korean Government

> Quarantine/Isolate

- For asymptomatic or mild symptoms, designated quarantine at home or a facility is possible. Personal necessity kits — care package with everything need to stay safe including gloves, masks, garbage bags, soap and even disposable thermometers — and another box full of non-perishable foods to last through the quarantine, including basic foods and ready-made meals are provided.

Treatment

- There were 67 dedicated hospitals designated by the government at a time when the number of newly confirmed cases of Corona 19 in Korea was soaring, with 7,500 dedicated beds. It also focused on managing high-risk groups. People with severe disabilities and senior citizens were given mobile samples so that they could be examined even if they did not visit the screening clinic.

> National Healthcare System

- COVID-19 inspection test is priced at \$160, while the cost of treatment is about \$10,000 for secondary patients. However, the bill for COVID-19 treatment for South Korean passport holders is zero, as they are covered by the government — 80 percent by the National Health Insurance, and the central government and municipalities jointly pay the remaining 20 percent — as stipulated under the Infectious Disease Control and Prevention Act. In fact, it became a hot topic that a patient who was discharged after 19 days of hospitalization after being confirmed paid only about \$40 out of \$9700 for treatment. Even that \$40 was for the purchase of goods needed during hospitalization.



Residential Treatment Center
Image Source: March 3, 2020. BreakNews



Personal Necessity Kits for Quarantine

Image Source: March 11, 2020. Medifonews

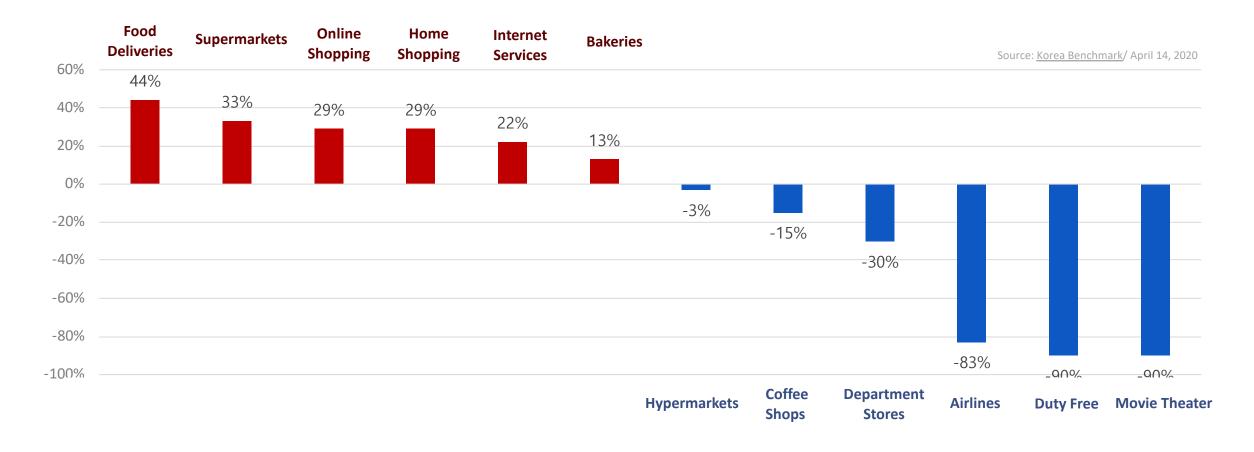


Treatment at Dedicated Hospitals

Image Source: February 1, 2020. TBS NEWS

THE CHANGES IN 100 DAYS

Sales of **supermarket, online shopping, home-shopping, internet service and bakeries** have shown positive growths in March, while COVID-19 has negatively affected to sales of hypermarkets, coffee shops, department stores, airlines, duty frees and movie theaters in the beginning.





Based: \$1=1,000 won	Before COVID-19	After COVID-19		
# of Daily Orders	2,200,000	3,300,000		
Monthly Sales	US\$14.4 billion (January 2020)	US\$16.3 billion (February 2020)		
# of Increased Part- time Deliveryman	4,000	12,000		

E-COMMERCE: ONLINE ORDERS INCREASED

DUE TO COVID-19

Coupang's Changes Before & After COVID-19



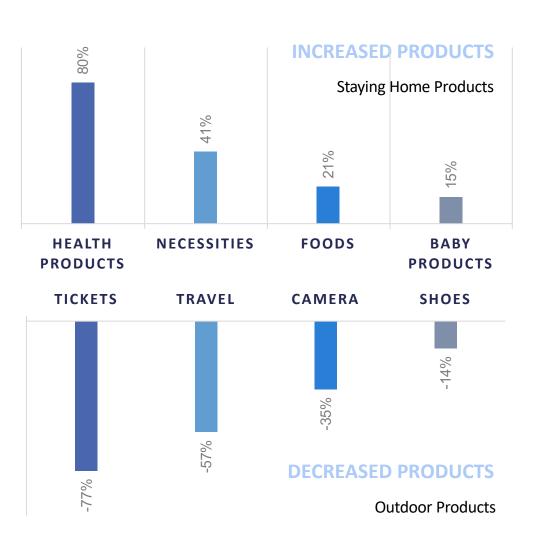
Coupang's daily orders have doubled since the spread of COVID-19 and recorded a peak 3.3 million, Jan. 28. Since then, the company has been delivering an average of **3 million orders a day**. Coupang said it will continue to invest in expanding its logistics and building more distribution centers.

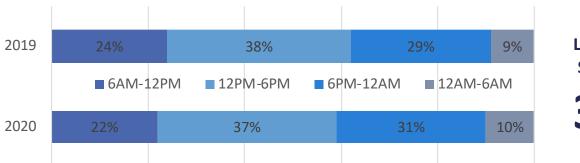
Orders on **Market Kurly**, a local grocery delivery platform, have skyrocketed in recent weeks. In February, Market Kurly deliveries were delayed and listed products sold out just as soon as they were stocked, where the company saw a sudden surge in users.

SSG sales of HMR products increased by 695 percent in the past month compared to the same period last year.

Source: February 25, 2020, Sports Seoul Newspaper

CHANGES IN ONLINE SERVICE PATTERNS





SHOPPING

3%

1



(Image) Source: <u>eBay Korea, Analysis from January 20 to March 3, 2020</u>



ECONOMIC STIMULUS PACKAGE

SOUTH KOREAN GOVERNMENT

- S. Korea's Economic Stimulus Package Fund: \$135 billion + a covering;
- i) \$26.4 billion for Small Enterprises
- ii) \$40 billion for Korea's Top 7 Key Industries
- iii) \$25 billion for Financial Institutes
- iv) \$14.3 billion for Emergency Disaster Relief Fund
- v) And others

EMERGENCY DISASTER RELIEF PAYMENT TO ALL HOUSEHOLDS – \$14.3 billion

The emergency disaster relief payment of up to \$1,000 will be paid to 2,171 million households (\$1,000 standard for four-member households). Will continue to support not only individual households but also SMEs, and large enterprises.

Source: Maekyung & The 300 & mbc news, The Government of the Republic of Korea

S. Korea to post negative GDP growth in 2020

Due to COVID-19

The International Monetary Fund (IMF) projected that South Korea's economy would grow negative 1.2% this year.

This forecast represents a low market growth, which is influenced by weak external demand despite Korea's swift and comprehensive approached to combating the COVID-19 outbreak.

O3 IMF predicted that South Korea's economy could grow 3.4% in 2021.

South Korea's Real GDP Growth (Annual Percent Change)



Source: IMF 2020, IMF - Republic of Korea



S. KOREA'S RESPONSE TO COVID-19



RETURNING BACK TO NORMAL LIFE



POST COVID-19: INDUSTRIAL TRENDS



POST COVID-19: PROMISING TECHNOLOGIES





SUGGESTIONS

RETURNING BACK TO NORMAL LIFE I

AFTER COVID-19

S. Korean people are returning to their normal life as the number of new cases down to single digit. According to the Ministry of Health and Welfare, South Korea started a "distancing in daily life" scheme from May 6 after keeping its months-long social distancing campaign.

Source: Ministry of Health and Welfare













RETURNING BACK TO NORMAL LIFE II

Under a "distancing in daily life" scheme, shopping malls, parks, museums and libraries are crowding with many people and there are long lines outside restaurants during lunchtimes. The streets became busier and some people are seen to not wear masks while the others still do.

Source: Chosun Biz



Public Library

Image Source: May 6, 2020. Newdaily



National Museum in Seoul

Image Source: May 6, 2020. The Asia Business Daily

RETURNING BACK TO NORMAL LIFE III

As the number of new confirmed cases has decreased down to nearly zero, the health authorities decided to ease the social distancing guidelines but still maintaining the alert level on COVID-19 at the highest. With the eased guidelines, KBO (Korea Baseball Organization) was one of the first pro leagues around the world to resume its season starting off on May 5, 2020.

Source: May 6, 2020. Yonhap News



Korean Baseball League Begins in Empty Stadiums

Image Source: May 5, 2020. CBC



ESPN to televise Korea Baseball
Organization Games Starting May 5

Image Source: May 5, 2020. The Sports Geek, ESPN

RETURING BACK TO NORMAL LIFE IV

INCREASED DOMESTIC TOURISTS

During the 'Golden Week', from late April to early May, Jeju Island which South Korea's most popular vacation destination received over 196,000 visitors during the holidays. Started on the 30th of April (The Buddha's Day), 'Golden Week' was scheduled to be held until Labor Day on the 1st of May, weekend on the 2nd and 3rd and Children's Day on the 5th.

Source: May 5, 2020. Yonhap News

#급구주면 취임 및 전 보고 전 등 기업 보고

Image Source: April 23, 2020; Financial News

SOLD OUT TICKETS

All tickets from Gimpo to Jeju Island were sold out and most of the flight reservations for Jeju were closed at the national airline's homepage during the golden week. Due to the a lot of tourists from all over the country visited Jeju, the Jeju government decided to extend the high-level of quarantine until May 19th.

	울(김포) -	- 11 1				
04-24(금) 22,900	04-25(토) 26,900	04-26(일) 14,900	04-27(월) 11,900	04-28(화) 17,900	04-29(수) 70,000	04-30(목) 106,500
출발시간		도착시간	FLY 최저	FLYBAG	FLYBAG+	NEW CLASS ← 🟣 →
GMP 06:25 서울(검포)(GI 7C 101 직항		CIU 07:35 제주(CIU)	마감	마감	마감	D. A
GMP 07:00 서울(검포)(GI 7C 103 직항		OB:10 제주(CJU)	마감		LD OI	T
GMP 07:30 서울(검포)(GI 7C 171 직항		CIU 08:40 제주(CIU)	마감	50		미운영
GMP 07:40 서울(검포)(GI 7C 105 격형		CIU 08:50 제주(CIU)	마감	마감	마감	미운영

Image Source: April 20, 2020; Naver News

Image Source: April 22, 2020; News Jeju

RETURNING BACK TO SCHOOL V

Gradual School Opening - The Education Ministry recently announced that high school seniors will be the first to **return to school on May 13**th and gradually begin opening schools for the rest of the students on May 20th, 27th, and finally on June 1st.

Wednesday, May 13	sday, May 13 12 th Grade	
Wednesday, May 20	11 th Grade / 9 th Grade / 1 st & 2 nd Grade / Kindergarten	
Wednesday, May 27	10 th Grade / 8 th Grade / 3 rd & 5 th Grade /	
Monday, June 1	/ 7 th Grade / 5 th & 6 th Grade /	

South Korea recently unveiled a set of guidelines for schools ahead of their scheduled reopening in May. The new guidelines also give students and parents the **option to study** from home for a certain period until the country's diseases alert level is lowered to the third-highest level or below in the four tier system.

Also, **universities** have been conducting online classes from late February; however, the second week of May, many universities **decided to reopening**, **but partially**. Korean universities are planning to conduct **small-scale lectures with 20 to 30 students or less**.



Image Source: May 7, 2020. The Korea Times



Image Source: April 28, 2020. <u>The Korea Bi</u>zwire



S. KOREA'S RESPONSE TO COVID-19



RETURNING BACK TO NORMAL LIFE



POST COVID-19: INDUSTRIAL TRENDS



POST COVID-19: PROMISING TECHNOLOGIES





SUGGESTIONS

1. Global Value Chain (GVC)

- GVC reorganization → RVC (Regional Value Chain) / NVC (National Value Chain)
- Changes in GVC Structure: diversification and regionalization
- Reduce reliance on specific countries and domestic development and supply chain diversification
- Just in time delivery → Just in case inventory

Source: The Government of the Republic of Korea, Hyundai Research Institute

"Key aggravating factors include disrupted cross-border trade, suspended operations of overseas plants, the weakened global value chain and growing levels of nationalism" – S. Korean Deputy Prime Minister Hong Nam-Ki





Image Source: IMF

Image Source: February 17, The Hankyoreh

2. Digitalization

Emerging 'Untact Services'

- As the number of non-face-to-face services increases, Untact Services is on the rise in the various industries such as E-commerce, Education, Smart Healthcare, and Tele-Medicine.

ICT-based Systems

- INDUSTRY-4.0, 5G, AI and big data are in the spotlight and it will continue to develop

Source: The Government of the Republic of Korea, Ministry of Science and ICT, Korea Institute of S&T Evaluation and Planning



McDonald Korea reported that the number of vehicles using its drive-through platform, "McDrive," exceeded up to 10 million in the 1st quarter. Also, the sales made from McDrive increased by 30% in March, according to the hamburger franchise chain.

Source: The Food & Beverage News/ April 20, 2020







The robotic hand drip algorithm and the self-driving robot, PANG SHUTTLE, delivers the food and coffee ordered by the customer to their location.

Source: Loung' Lab

3. Automation

Extension of the need for Automation

- Automation and intelligent system will be developed in the following sectors; Smart Factory, Robot, Unmanned Vehicle, 5G
- Transportation, Logistics and Manufacturing industries are changing to automatically and intelligently
- Improve AI technology for self-driving systems and promote necessary data sharing projects.

Source: Ministry of Science and ICT, Korea Institute of S&T Evaluation and Planning



Image Source: Invest Korea Image Source: FA Journal SMART FACTORY





SMART FACTORY

The Ministry of SMEs and Startups (MSS) will provide 30,000 smart factories by 2022 to accelerate manufacturing innovation. In 2020, The government invest approximately \$400 million to build 5,600 smart factories. The major companies in Korea including Samsung Electronics, Hyundai Motor and LG Electronics will pursue the smart factory project with the ministry.

Source: Ministry of SMEs and Startups, Ministry of Trade, Industry and Energy

4. Reshoring & Diversification

Reinforcement of Reshoring support

Factories located abroad are to be brought back to Korea for several opportunities such as;

- Creation more domestic jobs
- Building own supply chain
- Strengthening local manufacturing
- Foreign direct investment

Supply Chain Diversification

The core of the **supply chain diversification**, called "China Plus One" strategy, is **to diversify the countries** to be prepared for the risk from a specific country.

Now, it needs to upgrade its existing 'China Plus One' strategy to 'Vietnam Plus One'. The most appropriate alternative countries include India and Indonesia as they have strengths in IT, Software, Advanced-technology and Bio-technology.

According to the Ministry of Trade, Industry and Energy, the government decided to strengthen competitiveness of **materials**, **parts and equipment industry**. It will expand from the existing 100 items with Japan to 338 items with global.



Image Source: Ministry of Economy and Finance

5. Enhanced Government Role

 The government policies and directions are getting more important and powerful but must be smart in the uncertainty era, especially in the driven of economic stimulus plan and implementation of its policies to the health and safety issues.

 Israeli historian Yuval Harari wrote in his recent column "The world after coronavirus" that the post-coronavirus era might see the advent of a Big Brother that closely monitors and controls the people under the excuse of emergency.





S. KOREA'S RESPONSE TO COVID-19



RETURNING BACK TO NORMAL LIFE



POST COVID-19: INDUSTRIAL TRENDS



POST COVID-19: PROMISING TECHNOLOGIES





SUGGESTIONS

1. HEALTHCARE & PHARMACEUTICAL

1. K-BIO, K-QUARANTINE

- Development of K-BIO and K-QUARANTINE to become a global vaccine production hub

2. Telemedicine

- Increased needs for telemedicine that allow doctors to diagnose and prescribe without face-to-face consultation.

3. Real-Time Biometric monitoring

- Monitors health conditions by collecting and analyzing personal biometric information regardless of time and space.



Image Source: March 16th, 2017 Ministry of Culture, Sports, and Tourism

Source: Ministry of Science and ICT, Ministry of Health and Welfares, Korea Institute of S&T Evaluation and Planning

2. SCIENCE & TECHNOLOGY

1. Home Economy

- Because the demand for Home Economy is increasing, Real-time video and sound services including VR, AR technology can increase viewers' sense of reality

2. Security of video conferencing

- Need to strengthen the security of video conferencing system and also to enhance a variety of functions

3. ICT-based total logistics platform

- Using big data, IoT, AI technologies to enables real-time forecast delivery and inventory management by digitalizing logistics information



Image Source: May 7th, 2020 <u>TechGenyz</u>

3. EDUCATION

1. Virtual and mixed reality technology

- Need to have virtual and mixed reality technology for the user's sensory information including visual, tactile and motion recognition

2. E-learning system with AI and big data

 Ai and big data analyzes learners' existing data in real time and adjust the difficulty level to provide customized educational level

3. High-capacity communication technology

- Network technology that delivers large amounts of content to a number of learners quickly and stably



Image Source October 5th, 2019 Venturebeat

4. ADVACNED MANUFACTURING

1. ICT based technology

- Increased productivity of manufacturing equipment and manpower with ICT-based tools and technologies

2. Big data, Al

- Digital Transformation increases the importance of AI and big data to discover a new business combining several industries such as Bio healthcare, Education and working environments

3. Unmanned Technology

- Enhance the environmental technology by convergence of Advanced manufacturing including Robot, Future car, Smart factory and Drone



Image Source: SIEMENS

Source: Ministry of Science and ICT, Korea Institute of S&T Evaluation and Planning

5. E-COMMERCE & LOGISTICS

1. ICT-based Logistics information system

- With IoT, big data and AI, predictive delivery and inventory management systems will be increased.

2. Driving robot

- Self-driving delivery robot technology to enhance the efficiency of delivery system

3. Smart distribution and logistics center

- The process from warehousing to forwarding of products from the logistics center intelligently and automatically





Image Source: April, Starsian.Inc



S. KOREA'S RESPONSE TO COVID-19



RETURNING BACK TO NORMAL LIFE



POST COVID-19: INDUSTRIAL TRENDS



POST COVID-19: PROMISING TECHNOLOGIES





SUGGESTIONS

••• NOW, YOU TAKE THE LEAD! TEAMS ARE IN THE MARKET

SUGGESTED NEXT SERVICES

01 Go Digital

Digital transformation is inevitable and even traditional industries are preparing to go in digital. Start and implement whatever you can do for go-digital

Meet Your Client Virtual

To develop a sustainable market entry strategy, maintain existing marketing and sales channels, and aid continued business expansion.

Initiate Innovation

Initiate to form new ideas, creative thoughts, new imaginations in your business.







7 WAYS TO REDUCE STRESS

AND KEEP BLOOD PRESSURE DOWN

GET ENOUGH SLEEP



Inadequate or poor-quality sleep can negatively affect your mood, mental alertness, energy level, and physical health.

HONE YOUR TIME-MANAGEMENT SKILLS



The more efficiently you can juggle work and family demands, the lower your stress level.

LEARN RELAXATION TECHNIQUES



progressive Meditation, muscle relaxation, guided imagery, deep breathing exercises, and yoga are powerful relaxation techniques and stress-busters.

RESOLVE STRESSFUL SITUATIONS



Don't let stressful situations fester. Hold family problem-solving sessions and use negotiation skills at home and at work.

STRENGTHEN YOUR SOCIAL NETWORK



Connect with others by taking a class, joining an organization, or participating in a support group.

NURTURE YOURSELF



Treat yourself to a massage, take a walk or a nap, or listen to your favorite music.







Don't be afraid to ask for help from your spouse, friends, and neighbors. If stress and anxiety persist, talk to your doctor.





"Keep Physical Distance & Spiritual Proximity"

Harvard Professor Michael Sandel